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EXAMINER	
KOCH, GEORGE R	

ART UNIT	PAPER NUMBER
1791	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/510,128	COLVILL ET AL.	
	Examiner	Art Unit	
	George R. Koch III	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 September 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 20-22 are rejected under 35 U.S.C. 112, first paragraph, ~~as~~ failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant claims an "electronic controller receiving the mark signal from the mark signal generator and the speed signal from the speed sensor, and generating a tabbing signal". The originally filed application provides no support for such an electronic controller.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1, 2, and 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bjork (US 6,295,129 OR WO/1998/021568) in view of Schenk (US 4,746,020) and Murayama (US 4,547,250).

As to claim 1, Bjork (all citations to the US Patent; the WO document has an identical disclosure) discloses a marking system (Figure 1) for a web advancing along a path (item 70), comprising a monitoring station (Figure 1, item 10/50; Figure 3, items 150/300), mark signal device arranged to produce an appropriate mark signal on detection of a location to be marked and the nature of the required mark (Figure 1, cable 100, disclosed as "transferring signals to the marking device if a defect is detected", column 3, lines 40-42, see also Figure 3, item 310 and column 4, lines 48-58), and a tab inserter (Figure 1, marking device 60, see also Figure 3, item 160) disposed downstream of the monitoring station (both marking devices shown Figure 1 and 3 are downstream) and arranged to apply an adhesive tab to the web at the detected location (see column 4, lines 1-4, which discloses placing the marker in a predetermined position), the tab applicator including an on-line printer (see column 3, line 36, which discloses an electronic printer in the marking device) which prints indicia (see column 3, lines 62-65 for the indicia printed, see also Figure 2) on to each tab (item 62 or 162, called a label) before the tab is applied to the web.

Bjork clearly discloses a control routine of monitoring the web and sending a control signal to the tab applicator, as well as second means for controlling the sensitivity of the detector

(see column 3, lines 23-42). However, Bjork does not get into the timing elements, nor discloses how the labels are controlled to be in a predetermined position on the strip. Bjork also does not disclose applying the adhesive tab to the edge.

However, Schenk discloses a very similar apparatus, for marking defects in a moving web, which discloses numerous control details. Schenk also has a scanning or monitoring station (item 16), a marking device (item 14)[1], and various signal (signals yi, zj) and control means (items 11, 12, 13, 19, 20, 22, 23, and 24 in the Figure). For example, item 22 in Schenk is a fault signal analyzer, which is analogous to a structure for creating a mark signal (see column 5, lines 1-26). Schenk other control device achieves a timed relationship by the use of incremental transducer 19, which sends a signal to comparator 12 corresponding to the feed of the web (see column 4, lines 38-60), and this signal is essentially used to create the timed relationship independent of the speed of the web for driving the marking means (see columns 4-6). Schenk discloses that this control structure enables the application of the mark at the relevant location. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized Schenk's control means in the apparatus of Bjork in order to ensure the application of the mark and label at the relevant location.

Additionally, Murayama discloses applying the labels in a manner in order to achieve labels or tabs that overhang the edge of the web, as recited in claims 9 and 18 (see Figure 5 and

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[1] However, Schenk's marking device is dissimilar to the claimed marking device. Column 4, lines 55-60 disclose that the marking device "consists of numerous markers... which make it possible to apply an optical, electrical, or magnetic marking to the web". However, Bjork, the primary reference, utilizes the label applicator marking technique.

It is interesting to note that Murayama, cited in the IDS, has a discussion of the benefits of various marking techniques, and concludes labeling techniques are superior to a number of optical techniques. See the rejection using Schenk as a primary reference for an alternative look at why the claims are obvious.

6). Murayama implicitly discloses that the application of the tabs in this overhanging manner is beneficial when subsequently rolling the web, since it allows for the marked labels to be extended from the side face of the roll (see column 5, lines 19-21, and Figures 5 and 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a transverse applicator which applies overhanging tabs or labels as such markers would be visible when the web is later rolled up.

As to claim 2, Bjork discloses that the tab applicator is essentially a label applicator or labeling head adapted to apply tabs each in the form of a self-adhesive label to the web (see column 3, lines 61-62, which discloses that the marking device applies labels to the strip).

As to claim 6, Bjork discloses that the on-line printer can comprises a ink-jet printer, a laser printer, a *thermal printer* (s claimed) or the like (see column 4, lines 5-13 - on the like is interpreted as being a disclosure of any known printer technique at the time of Bjork's invention). Bjork discloses that any printer can be contemplated. At the Bjork was invented (late 90's), dot matrix printers an thermal transfer printers were also well known as conventional, obvious, non-novel alternatives of the disclosed printers (dot matrix and thermal transfer printers pre-date the 1980's). Thus, Bjork implicitly discloses any printing mechanism known at the time of the invention is within the scope of the invention as a selectable printing mechanism.

Furthermore, official notice is taken that it would have been well known and conventional for dot matrix and thermal transfer printers to be used. Such printers would have been well known at the time, and could have been selected as an obvious design choice very much well within the capabilities of one of ordinary skill in the art.

As to claim 7, the apparatus and labeling structures of Bjork are capable of being used in such a manner to operate by the intended use method steps of claim 7.

As to claim 8, the apparatus of Bjork is considered capable of applying in a transverse direction. Furthermore, the application orientation of the tabs in Bjork is diagrammed identically to the transverse application in the application, and therefore Bjork is considered to be transverse application (Compare Bjork, figure 3, with applicant's own Figure 3).

Further, as to claim 8, Bjork and Schenk do not suggest applying the tabs in a direction generally transverse of the direction of the web advancement. In Bjork, it is unclear what direction the tabs are applied, although Figure 1 and 3 suggest a transverse orientation. The application orientation of the tabs in Bjork is diagrammed identically to the transverse application in the application, and therefore Bjork is considered to be transverse application (Compare Bjork, figure 3, with applicant's own Figure 3).

In any event, as to claim 8, Murayama clearly discloses transverse application of the labels. See Figure 1. Additionally, Murayama applies the labels in this manner in order to achieve labels or tabs that overhang the edge of the web, as recited in claims 9 and 18 (see Figure 5 and 6). Murayama implicitly discloses that the application of the tabs in this overhanging manner is beneficial when subsequently rolling the web, since it allows for the marked labels to be extended from the side face of the roll (see column 5, lines 19-21, and Figures 5 and 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a transverse applicator which applies overhanging tabs or labels as such markers would be visible when the web is later rolled up.

As to claim 9, the apparatus of Bjork is considered capable of applying

As to claim 10, Bjork discloses monitoring device (detector 10, ideally a CCD-camera - see column 2, line 57 to column 3, line 34), and these monitoring device identify web defects or faults and are further considered capable of detecting splices.

As to claim 11, Bjork discloses that the web fault detector is a CCD camera, i.e., a type of video camera (see column 3, lines 5, 18, etc), which is arranged to scan the web (see column 3, line 7-10, which discloses scanning the web) advancing along the path and that a camera output is analyzed to determined the presence of one or more web defects (and see column 3 in general, especially lines 43-47 which discusses the sensitivity and detectability of defects).

As to claim 12, official notice is taking that the use of remote controllers permitting manual production of a mark signal on visual detection by operations is well known and conventional. One in the art would appreciate that structures providing this capability would allow for human intervention whenever the monitoring station misses a defect, as well as permit generic marking of the web. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized remote controllers.

6. Claims 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bjork (US 6,295,129 OR WO/1998/021568) in view of Schenk (US 4,746,020).

As to claim 13, the monitoring station of Bjork performs the step of monitoring the web as claimed. Bjork discloses monitoring the web as it passes through a monitoring station (item 10) providing on the path and producing a mark signal (transmitted through connection 100) on the detection of a location of the web to be marked. Bjork disclose mark signal means, and thus

also disclose using these mark signals to control the printer and tab applicator (item 60). Bjork also discloses using the signal to print an adhesive tab (item 62) with an online printer (item 60) so as to apply the tab as claimed. The tag carries appropriate indicia for the required mark (as shown in Figure 2) and is thereafter applied to the web (as shown in Figure 1), and each tag is positioned at the noted location and carries appropriate indicia for that location (see sespecially column 3, line 48 to column 4, line 13). Bjork does not disclose the control means, or the explicit control routines claimed.

Schenk discloses a similar method, with step of monitoring the web as claimed. Schenk also disclose mark signal means, and thus also disclose feeding the mark signal. Schenk goes further with the control means element, feeding the output of the detector into a control operation/elements, which is translated into a drive or marking signal. As noted above, Schenk discloses that this control structure and operation enables the application of the mark at the relevant location. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized Schenk's control means and operation in the apparatus and method of Bjork in order to ensure the application of the mark and label at the relevant location.

As to claim 14, Schenk as incorporated in claim 13 above discusses monitoring the incremental feed of the web through the use of transducer (item 19). This transducer signal is fed into the control system and compensates for the speed of the web, allowing the marking means to be applied in the appropriate location.

As to claim 15, Bjork discloses printing alphanumeric characters identifying or coded with regard to the defect to be marked (column 3, lines 62-65).

As to claim 16, it is further considered obvious to print any number or style of alphanumeric characters on the marker. Such a coded design would be an obvious engineering design choice that can be made in consideration of the requirements needed. Bjork shows some codes on their label (see Figure 2).

As to claim 17, the application orientation of the tabs in Bjork is diagrammed identically to the transverse application in the application, and therefore Bjork is considered to be transverse application (Compare Bjork, figure 3, with applicant's own Figure 3).

As to claim 19, Bjork teaches the monitoring station (item 10) as claimed, the mark signal device (electrical cable 100; which triggers the online printer in the marking device 60; see column 3, lines 35-42), and a tab applicator (unnumbered label application structures shown in Figure 1). Bjork also discloses that the tab applicator includes the online printer (column 3, line 36, disclosing an electronic printer).

Bjork is silent as to speed sensing members or a control arrangement as claimed.

However, Schenk discloses a very similar apparatus, for marking defects in a moving web, which discloses numerous control details. Schenk also has a scanning or monitoring station (item 16), a marking device (item 14)[2], and various signal (signals yi, zj) and control means (items 11, 12, 13, 19, 20, 22, 23, and 24 in the Figure). Schenk also discloses an incremental transducer (item 19). Schenk discloses that this transducer transmits a signal which corresponds to the feed of the web, in essence, the speed of the web.. For example, item 22 in Schenk is a fault signal analyzer, which is analogous to a structure for creating a mark signal (see column 5,

[2] See Footnote 1 for a discussion of Schenk's marking device.

lines 1-26). Schenk other control device achieves a timed relationship by the use of incremental transducer 19, which sends a signal to comparator 12 corresponding to the feed of the web (see column 4, lines 38-60), and this signal is essentially used to create the timed relationship independent of the speed of the web for driving the marking means (see columns 4-6). Schenk discloses that this control structure enables the application of the mark at the relevant location. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized Schenk's control means in the apparatus of Bjork in order to ensure the accurate application of the mark and label at the relevant location.

7. Claims 1, 2, 6-12 and 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schenk (US 4,746,020) in view of Bjork (US 6,295,129 OR WO/1998/021568) and Murayama (US 4,547,250).

As to claim 1, Schenk discloses a very similar apparatus, for marking defects in a moving web, which discloses numerous control details. Schenk also has a scanning or monitoring station (Figure, see item 16), a marking device (item 14), and various signal means (item 22, signals yi, zj) and control means (items 11, 12, 13, 19, 20, 23, and 24 in the Figure). Item 22 in Schenk is a fault signal analyzer, which is analogous to a structure for creating a mark signal means (see column 5, lines 1-26) in that it creates a signal as to the location of the defect. Schenk discloses various elements comprising the control means, and achieves a timed relationship by the use of incremental transducer 19, which sends a signal to comparator 12 corresponding to the feed of the web (see column 4, lines 38-60), and this signal is essentially used to create the timed

relationship independent of the speed of the web for driving the marking means (see columns 4-6).

Schenk, however, does not disclose a tab applicator, but rather a marking device that applies an optical, electrical or magnetic mark (see column 4, lines 46-60). Since Schenk does not disclose using an adhesive tab, it does not disclose placing the tab at an edge margin of the web.

Bjork (all citations to the US Patent; the WO document has an identical disclosure) discloses a similar defect analyzing and marking system (Figure 1) for a web advancing along a path (item 70), comprising a monitoring station (Figure 1, item 10/50; Figure 3, items 150/300), mark signal means arranged to produce an appropriate mark signal on detection of a location to be marked and the nature of the required mark (Figure 1, cable 100, disclosed as "transferring signals to the marking device if a defect is detected", column 3, lines 40-42, see also Figure 3, item 310 and column 4, lines 48-58). Bjork discloses the missing element of a tab applicator (Figure 1, marking device 60, see also Figure 3, item 160) disposed downstream of the monitoring station (both marking devices shown Figure 1 and 3 are downstream) and arranged to apply an adhesive tab to the web at the detected location (see column 4, lines 1-4, which discloses placing the marker in a predetermined position), the tab applicator including an on-line printer (see column 3, line 36, which discloses an electronic printer in the marking device) which prints indicia (see column 3, lines 62-65 for the indicia printed, see also Figure 2) on to each tab (item 62 or 162, called a label) before the tab is applied to the web.

Additionally, Murayama discloses motivation for using the label applicator format. In column 1, lines 32-59, Murayama surveys the known methods for indicating defects, and

essentially concludes that the various marking techniques (and specifically, optical techniques of marking with ink rolls, felt pens, stamps or direct ink jets) have the flaw of making it difficult to find the position of the defects from the side face of a rolled web (and this rational also applies to electrical and magnetic markings). Murayama also concludes that despite of the defects of label type marks, they are superior and more advantageous than the marking techniques, especially when applied in the overhanging technique disclosed in Murayama (Figure 5 and 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the label application tab applicator of Bjork and Murayama in lieu of the marking approach of Schenk in order to avoid the known defects described in Murayma.

Additionally, Murayama discloses applying the labels in a manner in order to achieve labels or tabs that overhang the edge of the web, as recited in claims 9 and 18 (see Figure 5 and 6). Murayama implicitly discloses that the application of the tabs in this overhanging manner is beneficial when subsequently rolling the web, since it allows for the marked labels to be extended from the side face of the roll (see column 5, lines 19-21, and Figures 5 and 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a transverse applicator which applies overhanging tabs or labels as such markers would be visible when the web is later rolled up.

As to claim 2, Bjork as incorporated discloses that the tab applicator is essentially a label applicator or labeling head adapted to apply tabs each in the form of a self-adhesive label to the web (see column 3, lines 61-62, which discloses that the marking device applies labels to the strip). Murayama also discloses the same (see Figure 5; see also column 4, lines 27-30, which discloses that the back surface of the label is coated with adhesive).

As to claim 6, Bjork as incorporated discloses that the on-line printer can comprises a ink-jet printer, a laser printer, a *thermal printer* (s claimed) or the like (see column 4, lines 5-13 - on the like is interpreted as being a disclosure of any known printer technique at the time of Bjork's invention). Bjork discloses that any printer can be contemplated. At the Bjork was invented (late 90's), dot matrix printers an thermal transfer printers were also well known as conventional, obvious, non-novel alternatives of the disclosed printers (dot matrix and thermal transfer printers pre-date the 1980's). Thus, Bjork implicitly discloses any printing mechanism known at the time of the invention is within the scope of the invention as a selectable printing mechanism.

Furthermore, official notice is taken that it would have been well known and conventional for dot matrix and thermal transfer printers to be used. Such printers would have been well known at the time, and could have been selected as an obvious design choice very much well within the capabilities of one of ordinary skill in the art.

As to claim 7, the apparatus and labeling structures of Bjork as incorporated are capable of being used in such a manner to operate by the intended use method steps of claim 7.

As to claim 8, the apparatus of Bjork as incorporated is considered capable of applying in a transverse direction. Furthermore, the application orientation of the tabs in Bjork is diagrammed identically to the transverse application in the application, and therefore Bjork is considered to be transverse application (Compare Bjork, figure 3, with applicant's own Figure 3). As to claim 9, the apparatus of Bjork is considered capable of applying to the edge. Murayama as incorporated clearly discloses transverse application of the labels. See Figure 1. Additionally, Murayama applies the labels in this manner in order to achieve labels or tabs that

overhang the edge of the web, as recited in claims 9 and 18 (see Figure 5 and 6). Murayama implicitly discloses that the application of the tabs in this overhanging manner is beneficial when subsequently rolling the web, since it allows for the marked labels to be extended from the side face of the roll (see column 5, lines 19-21, and Figures 5 and 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a transverse applicator which applies overhanging tabs or labels as such markers would be visible when the web is later rolled up.

As to claim 10, Bjork as incorporated discloses monitoring means (detector 10, ideally a CCD-camera - see column 2, line 57 to column 3, line 34), and these monitoring means identify web defects or faults and are further considered capable of detecting splices.

As to claim 11, Bjork as incorporated discloses that the web fault detector is a CCD camera, i.e., a type of video camera (see column 3, lines 5, 18, etc), which is arranged to scan the web (see column 3, line 7-10, which discloses scanning the web) advancing along the path and that a camera output is analyzed to determined the presence of one or more web defects (and see column 3 in general, especially lines 43-47 which discusses the sensitivity and detectability of defects).

As to claim 12, official notice is taking that the use of remote controllers permitting manual production of a mark signal on visual detection by operations is well known and conventional. One in the art would appreciate that structures providing this capability would allow for human intervention whenever the monitoring station misses a defect, as well as permit generic marking of the web. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have

Claim 13 is rejected on similar grounds as claim 1 above. See the citations above. Since the inventive concepts are the same, the same art renders the claims obvious.

Schenk discloses a similar method, with step of monitoring the web as claimed. Schenk also disclose mark signal means, and thus also disclose feeding the mark signal. Schenk goes further with the control means element, feeding the output of the detector into a control operation/elements, which is translated into a drive or marking signal. As noted above, Schenk discloses that this control structure and operation enables the application of the mark at the relevant location. Schenk does not disclose a label style tab applicator, but rather applies optical, electronic, or magnetic markings.

The monitoring station of Bjork performs a similar step of monitoring the web as claimed. Bjork disclose mark signal means, and thus also disclose using these mark signal to control the printer and tab applicator. Bjork also discloses using the signal to print an adhesive tab with an online printer so as to apply the tab as claimed. Additionally, Murayma as applied above discloses that label applicators are more advantageous than marking devices. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the label application tab applicator of Bjork and Murayama in lieu of the marking approach of Schenk in order to avoid the known defects described in Murayma.

As to claim 14, Schenk discusses monitoring the incremental feed of the web through the use of transducer (item 19). This transducer signal is fed into the control system and compensates for the speed of the web, allowing the marking means to be applied in the appropriate location.

As to claim 15, Bjork as incorporated discloses printing alphanumeric characters identifying or coded with regard to the defect to be marked (column 3, lines 62-65).

As to claim 16, it is further considered obvious to print any number or style of alphanumeric characters on the marker. Such a coded design would be an obvious engineering design choice that can be made in consideration of the requirements needed.

As to claim 17 and 18, the application orientation of the tabs in Bjork as incorporated is diagrammed identically to the transverse application in the application, and therefore Bjork is considered to be transverse application (Compare Bjork, figure 3, with applicant's own Figure 3). Additionally, Murayama as incoprated clearly discloses transverse application of the labels. See Figure 1. Additionally, Murayama applies the labels in this manner in order to achieve labels or tabs that overhang the edge of the web, as recited in claims 18 (see Figure 5 and 6). Murayama implicitly discloses that the application of the tabs in this overhanging manner is beneficial when subsequently rolling the web, since it allows for the marked labels to be extended from the side face of the roll (see column 5, lines 19-21, and Figures 5 and 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a transverse applicator which applies overhanging tabs or labels as such markers would be visible when the web is later rolled up.

As to claim 19, Schenk discloses an apparatus, for marking defects in a moving web, which discloses numerous control details. Schenk also has a monitoring station (Figure, see item 16), a marking device (item 14), and various signal means (item 22, signals yi, zj) and control means (items 11, 12, 13, 19, 20, 23, and 24 in the Figure). Item 22 in Schenk is a fault signal

analyzer, which is analogous to a structure for creating a mark signal means (see column 5, lines 1-26) in that it creates a signal as to the location of the defect. Schenk discloses various elements comprising the control means, and achieves a timed relationship by the use of incremental transducer 19, which sends a signal to comparator 12 corresponding to the feed of the web (see column 4, lines 38-60), and this signal is essentially used to create the timed relationship independent of the speed of the web for driving the marking means (see columns 4-6). This incremental transducer 19 is a sspeed sensor which fully reads on applicant's definition of a speed sensor in applicant's specification. Both incremental transducer 19 and the description of the sensor in page 5 of the specification disclose a sensor which transmits a pulsed or clock signal the frequency of which corresponds to the speed of the web (compare applicant's specification, page 5, lines 23-27 with Schenk, column 4, lines 37-44).

Schenk, however, does not disclose a tab applicator, but rather a marking device that applies an optical, electrical or magnetic mark (see column 4, lines 46-60). Since Schenk does not disclose using an adhesive tab, it does not disclose placing the tab at an edge margin of the web.

Bjork (all citations to the US Patent; the WO document has an identical disclosure) discloses a similar defect analyzing and marking system (Figure 1) for a web advancing along a path (item 70), comprising a monitoring station (Figure 1, item 10/50; Figure 3, items 150/300), mark signal means arranged to produce an appropriate mark signal on detection of a location to be marked and the nature of the required mark (Figure 1, cable 100, disclosed as "transferring signals to the marking device if a defect is detected", column 3, lines 40-42, see also Figure 3, item 310 and column 4, lines 48-58). Bjork discloses the missing element of a tab applicator

(Figure 1, marking device 60, see also Figure 3, item 160) disposed downstream of the monitoring station (both marking devices shown Figure 1 and 3 are downstream) and arranged to apply an adhesive tab to the web at the detected location (see column 4, lines 1-4, which discloses placing the marker in a predetermined position), the tab applicator including an on-line printer (see column 3, line 36, which discloses an electronic printer in the marking device) which prints indicia (see column 3, lines 62-65 for the indicia printed, see also Figure 2) on to each tab (item 62 or 162, called a label) before the tab is applied to the web.

Additionally, Murayama discloses motivation for using the label applicator format. In column 1, lines 32-59, Murayama surveys the known methods for indicating defects, and essentially concludes that the various marking techniques (and specifically, optical techniques of marking with ink rolls, felt pens, stamps or direct ink jets) have the flaw of making it difficult to find the position of the defects from the side face of a rolled web (and this rational also applies to electrical and magnetic markings). Murayama also concludes that despite of the defects of label type marks, they are superior and more advantageous than the marking techniques, especially when applied in the overhanging technique disclosed in Murayama (Figure 5 and 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the label application tab applicator of Bjork and Murayama in lieu of the marking approach of Schenk in order to avoid the known defects described in Murayma.

Additionally, Murayama discloses applying the labels in a manner in order to achieve labels or tabs that overhang the edge of the web, as recited in claims 9 and 18 (see Figure 5 and 6). Murayama implicitly discloses that the application of the tabs in this overhanging manner is beneficial when subsequently rolling the web, since it allows for the marked labels to be

extended from the side face of the roll (see column 5, lines 19-21, and Figures 5 and 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a transverse applicator which applies overhanging tabs or labels as such markers would be visible when the web is later rolled up.

8. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bjork, Schenk and Murayama as applied to claim 1 above, or alternatively Schenk, Bjork and Murayama as applied to claim 1 above, and further in view of Barilovits (US 6,412,535 B1).

As to claim 2, Bjork has been interpreted as disclosing a labeling head, on the basis of disclosing a label applicator. However, labeling head can be interpreted as an explicit claim to a structure for labeling. If so, this rejection applies.

As to claim 2, Barilovits discloses a labeling head which applies tabs to the web (label elements 32, see figure 2). Additionally, as to claim 3, Barilovits discloses that the labeling head includes a vacuum element, i.e., a vacuum foot, which collects the labels and holds them until the correct location is below (item 44, and see column 6, lines 63-67, which discloses a vacuum pump). Barilovits disloses holding the label via this vacuum - see column 7, lines 1-7). As to claim 4, Barilovits labeling head includes at least one air-jet nozzle air issuing (from compressed air sources and communicated through feed line 52, see column 7) from which serves to thrust the tab or label discharged from the labeling head on to the web. And as to claim 5, Barilovits discloses an air controller (the applicator programmable logic controller discloses in column 7) which is provided to cause air to issue from the at least one air jet nozzle only when a tab is released from the vacuum foot, to be applied to the web.

Barilovits discloses numerous teachings and suggesting for the use of this labeling head. Barilovits discloses that this mechanism and procedure has the advantage of eliminate the need for a label discharge mechanism to contact the web (column 7, lines 45-47), and that this is an advantage because it allows for the accommodation of webs of varying thickness without the need for adjustment of the label discharge mechanism, i.e., labeling head (and see column 7, lines 30-54). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used the label discharge mechanism of Barilovits with the vacuum foot, air nozzles, and air controller in order to eliminate the need for a label discharge mechanism that contacts the web, in order to achieve the benefits of being able to accommodate different thicknesses of webs without the need for adjustment of the label discharge mechanism.

9. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bjork and Schenk as applied to claim 13 above, and further in view of Murayama (US 4,547,250).

Bjork and Schenk do not suggest applying the tabs in a direction generally transverse of the direction of the web advancement. In Bjork, it is unclear what direction the tabs are applied, although Figure 1 and 3 suggest a transverse orientation. The application orientation of the tabs in Bjork is diagrammed identically to the transverse application in the application, and therefore Bjork is considered to be transverse application (Compare Bjork, figure 3, with applicant's own Figure 3).

In any event, as to claim 8 and 17, Murayama clearly discloses transverse application of the labels. See Figure 1. Additionally, Murayama applies the labels in this manner in order to achieve labels or tabs that overhang the edge of the web, as recited in claims 9 and 18 (see Figure

5 and 6). Murayama implicitly discloses that the application of the tabs in this overhanging manner is beneficial when subsequently rolling the web, since it allows for the marked labels to be extended from the side face of the roll (see column 5, lines 19-21, and Figures 5 and 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a transverse applicator which applies overhanging tabs or labels as such markers would be visible when the web is later rolled up.

10. Claims 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bjork, Schenk and Barilovits.

The citations above are incorporated by reference.

As to claim 20, Bjork discloses a monitoring station as claimed (detector 10, which can be photodiode means or CCD cameras), a mark signal generator (marking device 60, electrical cable 100, see column 3), and application of labels to the strip. The unnumbered label dispensing structures (see Figure 1) provide some support for a tab applicator structure. Bjork also makes reference to an on-line printer (see column 3, lines 34-35, disclosing an electronic printer)

Bjork is silent as to the web speed sensor, the electronic controller, and the specifics of the labeling head.

However, Schenk discloses a very similar apparatus, for marking defects in a moving web, which discloses numerous control details. Schenk also has a scanning or monitoring station (item 16), a marking device (item 14)[3], and various signal (signals yi, zj) and control means or

[3] See Footnote 1 for a discussion of Schenk's marking device.

electronic controllers (items 11, 12, 13, 19, 20, 22, 23, and 24 in the Figure). Schenk also discloses an incremental transducer (item 19). Schenk discloses that this transducer transmits a signal which corresponds to the feed of the web, in essence, the speed of the web.. For example, item 22 in Schenk is a fault signal analyzer, which is analogous to a structure for creating a mark signal (see column 5, lines 1-26). Schenk other control device achieves a timed relationship by the use of incremental transducer 19, which sends a signal to comparator 12 corresponding to the feed of the web (see column 4, lines 38-60), and this signal is essentially used to create the timed relationship independent of the speed of the web for driving the marking means (see columns 4-6). Schenk discloses that this control structure enables the application of the mark at the relevant location. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized Schenk's control means in the apparatus of Bjork in order to ensure the accurate application of the mark and label at the relevant location.

Barilovits discloses a labeling head which applies tabs to the web (label elements 32, see figure 2). Barilovits discloses that the labeling head includes a vacuum element, i.e., a vacuum foot, which collects the labels and holds them until the correct location is below (item 44, and see column 6, lines 63-67, which discloses a vacuum pump). Barilovits disloses holding the label via this vacuum - see column 7, lines 1-7). Barilovits discloses numerous teachings and suggesting for the use of this labeling head. Barilovits discloses that this mechanism and procedure has the advantage of eliminate the need for a label discharge mechanism to contact the web (column 7, lines 45-47), and that this is an advantage because it allows for the accommodation of webs of varying thickness without the need for adjustment of the label discharge mechanism, i.e., labeling head (and see column 7, lines 30-54). Therefore, it would

have been obvious to one of ordinary skill in the art at the time of the invention to have used the label discharge mechanism of Barilovits with the vacuum foot, air nozzles, and air controller in order to eliminate the need for a label discharge mechanism that contacts the web, in order to achieve the benefits of being able to accommodate different thicknesses of webs without the need for adjustment of the label discharge mechanism.

As to claim 21, Barilovits as incorporated discloses that labeling head includes at least one air-jet nozzle air issuing (from compressed air sources and communicated through feed line 52, see column 7) from which serves to thrust the tab or label discharged from the labeling head on to the web.

As to claim 22, Barilovits as incorporated discloses that an air controller (the applicator programmable logic controller discloses in column 7) which is provided to cause air to issue from the at least one air jet nozzle only when a tab is released from the vacuum foot, to be applied to the web.

11. Claims 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schenk, Bjork, Maruyama and Barilovits.

As to claim 20, Schenk discloses an apparatus, for marking defects in a moving web, which discloses numerous control details. Schenk also has a monitoring station (Figure, see item 16), a marking device (item 14), and various mark signal generator (item 22, signals yi, zj) and control means (items 11, 12, 13, 19, 20, 23, and 24 in the Figure). Item 22 in Schenk is a fault signal analyzer, which is analogous to a structure for creating a mark signal means (see column 5, lines 1-26) in that it creates a signal as to the location of the defect, which is then applied by

marking device 14. Schenk discloses various elements comprising the control means, and achieves a timed relationship by the use of incremental transducer 19, which sends a signal to comparator 12 corresponding to the feed of the web (see column 4, lines 38-60), and this signal is essentially used to create the timed relationship independent of the speed of the web for driving the marking means (see columns 4-6). This incremental transducer 19 is a speed sensor which fully reads on applicant's definition of a speed sensor in applicant's specification. Both incremental transducer 19 and the description of the sensor in page 5 of the specification disclose a sensor which transmits a pulsed or clock signal the frequency of which corresponds to the speed of the web (compare applicant's specification, page 5, lines 23-27 with Schenk, column 4, lines 37-44).

However, Schenk does not disclose a tab applicator, or an online printer, or a labeling head. Rather, Schenk's step of marking is performed by marking devices which apply an optical, electrical, or magnetic marking.

However, Bjork (all citations to the US Patent; the WO document has an identical disclosure) discloses a similar defect analyzing and marking system (see rejections above). Bjork specifically discloses the missing element of a tab applicator (Figure 1, marking device 60, see also Figure 3, item 160) disposed downstream of the monitoring station (both marking devices shown Figure 1 and 3 are downstream) and arranged to apply an adhesive tab to the web at the detected location (see column 4, lines 1-4, which discloses placing the marker in a predetermined position), the tab applicator including an on-line printer (see column 3, line 36, which discloses an electronic printer in the marking device) which prints indicia (see column 3,

lines 62-65 for the indicia printed, see also Figure 2) on to each tab (item 62 or 162, called a label) before the tab is applied to the web. Bjork show rudimentary tab application structures.

Additionally, Murayama discloses motivation for using the label applicator format. In column 1, lines 32-59, Murayama surveys the known methods for indicating defects, and essentially concludes that the various marking techniques (and specifically, optical techniques of marking with ink rolls, felt pens, stamps or direct ink jets) have the flaw of making it difficult to find the position of the defects from the side face of a rolled web (and this rational also applies to electrical and magnetic markings). Murayama also concludes that despite of the defects of label type marks, they are superior and more advantageous than the marking techniques, especially when applied in the overhanging technique disclosed in Murayama (Figure 5 and 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the label application tab applicator of Bjork and Murayama in lieu of the marking approach of Schenk in order to avoid the known defects described in Murayma.

Furthermore, Barilovits discloses a labeling head which applies tabs to the web (label elements 32, see figure 2). Barilovits discloses that the labeling head includes a vacuum element, i.e., a vacuum foot, which collects the labels and holds them until the correct location is below (item 44, and see column 6, lines 63-67, which discloses a vacuum pump). Barilovits disloses holding the label via this vacuum - see column 7, lines 1-7). Barilovits discloses numerous teachings and suggesting for the use of this labeling head. Barilovits discloses that this mechanism and procedure has the advantage of eliminate the need for a label discharge mechanism to contact the web (column 7, lines 45-47), and that this is an advantage because it allows for the accommodation of webs of varying thickness without the need for adjustment of

the label discharge mechanism, i.e., labeling head (and see column 7, lines 30-54). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used the label discharge mechanism of Barilovits with the vacuum foot, air nozzles, and air controller in order to eliminate the need for a label discharge mechanism that contacts the web, in order to achieve the benefits of being able to accommodate different thicknesses of webs without the need for adjustment of the label discharge mechanism.

As to claim 21, Barilovits as incorporated discloses that labeling head includes at least one air-jet nozzle air issuing (from compressed air sources and communicated through feed line 52, see column 7) from which serves to thrust the tab or label discharged from the labeling head on to the web.

As to claim 22, Barilovits as incorporated discloses that an air controller (the applicator programmable logic controller discloses in column 7) which is provided to cause air to issue from the at least one air jet nozzle only when a tab is released from the vacuum foot, to be applied to the web.

Response to Arguments

12. Applicant's arguments filed 9/13/2007 with respect to the art rejections have been fully considered but they are not persuasive.[4]

13. Applicant advances a number arguments, which appear to apply to each of the independent claims. These arguments are not persuasive.

[4] Applicant's amendments have overcome the 35 USC section 112 2nd paragraph rejections.

14. Applicant argues that Bjork requires a full width label. Examiner does not believe that Bjork teaches a full width label. Bjork discusses the label in column 3, line 48 to column 4, line 13. This section discloses that "[t]he label can either be placed in a predetermined position on the strip or *be laterally displaced* when the marker is placed in a predetermined position on the label". This teaching of "laterally displaced" suggests that the label does not have to cover the full width of the strip.

Additionally, Murayama explicitly teaches tab being applied to an edge margin of the web at the detected location.

15. Additionally, nothing in claims 13-17 or 19-22 requires any detail about the label location or size.

16. With respect to references to speed sensing, Schenk discloses an incremental transducer 19 which is a speed sensor. Specifically, incremental transducer 19 of Schenk and the description of the sensor in page 5 of the specification disclose a sensor which transmits a pulsed or clock signal the frequency of which corresponds to the speed of the web (compare applicant's specification, page 5, lines 23-27 with Schenk, column 4, lines 37-44).

17. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the many of features upon which applicant relies (i.e., that a full width label is excluded by the language of claims 13-17, or 19-22, and more specifically, something about the web type that would make it impossible to work with the labeler of Bjork) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). It should be noted that despite of

applicant's arguments that neither Bjork nor Schenk could work with the desired webs (paper webs or textile webs), nothing in the claims limits the apparatus to those desired webs. Rather, applicant sticks with the very generic "web" and chooses not to limit the claims to any particular web. It is impossible to credit any arguments that the prior art cannot work with the particular substrate when there is no mention in the claim of a limitation that may remotely require the particular web types.

18. Furthermore, two key doctrines with respect to apparatus claims should be noted. The manner of operating the device does not differentiate apparatus claim from the prior art. MPEP 2114. The material or article worked upon does not limit apparatus claims. MPEP 2115. In this case, the arguments are heavily focused on the web type itself. However, it is unclear how arguments as to the intended manner of operating the apparatus and material work upon by the apparatus would provide any type of distinction between the prior art and the claims.

Conclusion

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (571) 272-1230 (TDD only). If the applicant cannot make a direct TDD-to-TDD call, the applicant can communicate by calling the Federal Relay Service at 1-866-377-8642 and giving the operator the above TDD number. The examiner can also be reached by E-mail at george.koch@uspto.gov in accordance with MPEP 502.03. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Philip Tucker can be reached on (571) 272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

George R. Koch III
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Art Unit 1791

GRK
11/19/2007